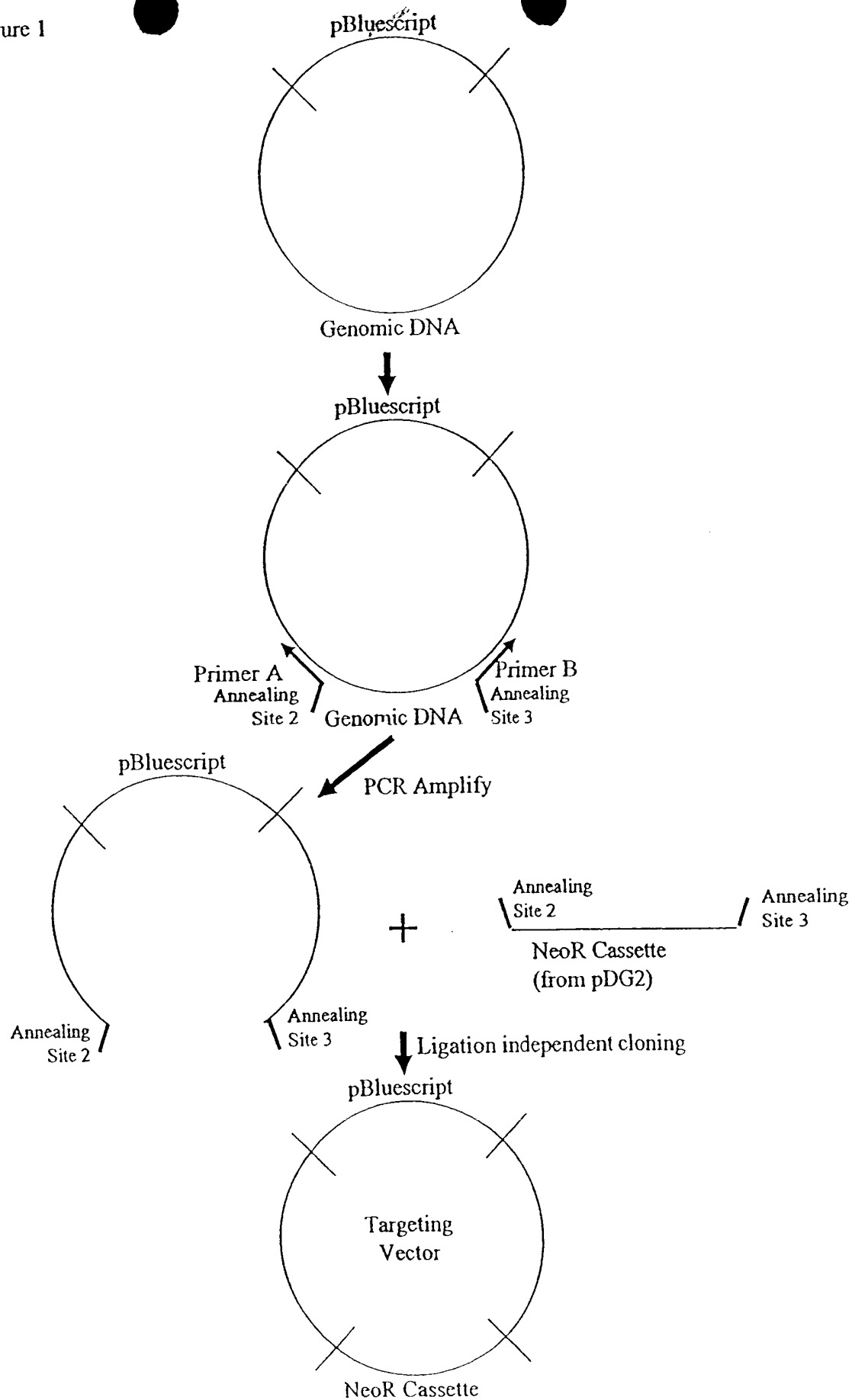


Figure 1



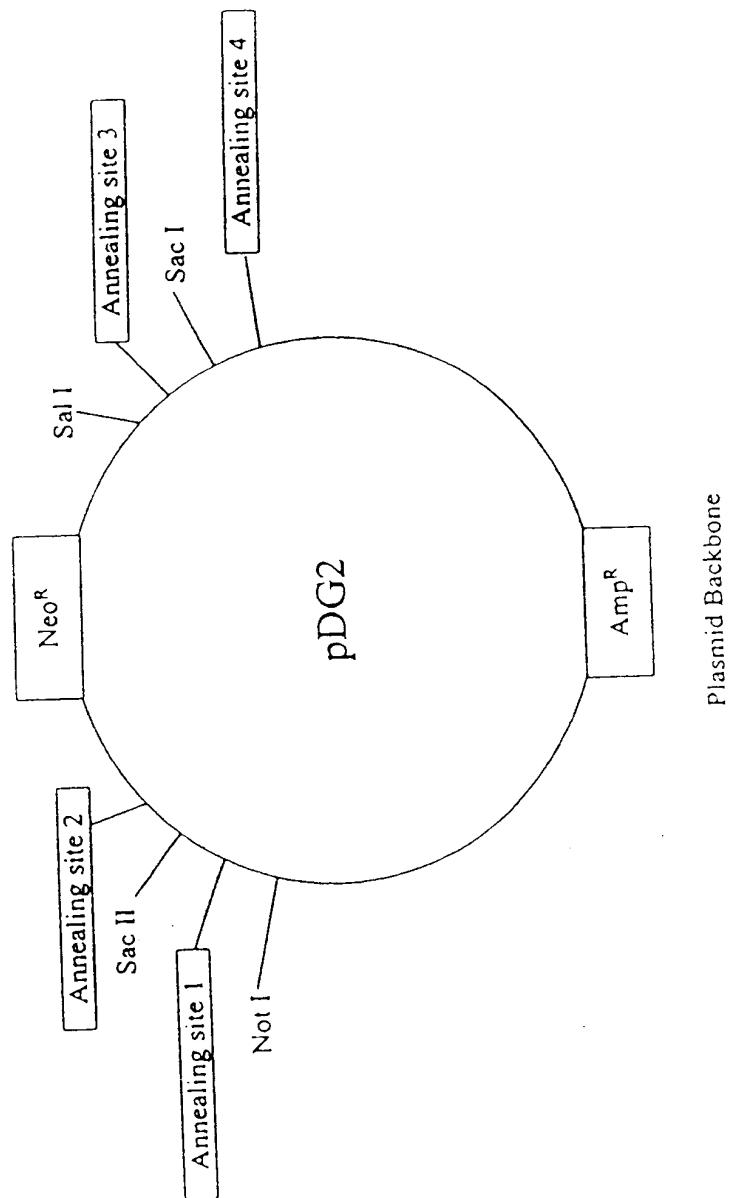


FIGURE 2A

FIGURE 2B

pDG2:

GTTAACTACGT CAGGTGGCACTTTTCGGGGAATGTGCGCGGAACCCCTATTTGTTTATTTTCTAAATACATTCAAATA
 TGTATCCGCTCATGAGACAAATAACCTGATAAATGCTTCAATAATATTGAAAAAGGAAGAGTATGAGTATTCAACATTTTC
 CGTGTGCGCCCTTATTCCTTTTTTTCGGGCATTTTGCCTTCTGTTTTGCTCACCAGAAACCGCTGGTGAAAGTAAAGA
 TGCTGAAGATCAGTTGGGTGCACGAGTGGGTACATCGAACTGGATCTCAACAGCGGTAAGATCCTTGAGAGTTTTTCGCC
 CCGAAGAACGTTCTCCAATGATGAGCACTTTTAAAGTTCTGCTATGTGGCGCGGTATTATCCCGTGTGACGCGGGCAA
 GAGCAACTCGGTGCGCGCATACACTATTCTCAGAAATGACTTGGTTGAGTACTCACCAGTCAAGAAAAGCATCTTACGGA
 TGGCATGACAGTAAGAGAATTATGCAGTGTGCGCATACCATGAGTGATAAAGTGGCGGCACTTACTTCTGACAAACGA
 TCGGAGGACCGAAGGAGCTAACCGCTTTTTTGCAACAATGGGGGATCATGTAAGTGGCTTGTGAGTGGGAAACCGGAG
 CTGAATGAAGCCATACCAAAACGAGCGGTGACACCAAGTGCCTGTAGCAATGGCAACACGTTGCGCAAACTATTAAAC
 TGGCGAACTACTTACTCTAGCTTCCCGGCAACAATTAAGACTGGATGGAGGCGGATAAAGTTGCGAGGACCACTTCTGC
 GCTCGGCCCTTCCGGCTGGCTGGTTTTATTGCTGATAAATCTGGAGCCGTGAGCGTGGGTCTCGCGGTATCATTGCAGCA
 CTGGGGCCAGATGGTAAGCCCTCCCGTATCGTAGTTATCTACACGACGGGAGTCAGGCAACTATGGATGAACGAAATAG
 ACAGATCGCTGAGATAGGTGCTCCTCACTGATTAAAGCATTTGGTAACTGTCAGACCAAGTTTACTCATATATACTTTAGATTG
 ATTTACCCCGGTTGATAATCAGAAAAGCCCCAAAAACAGGAAGATTGTATAAGCAATATTTAAATTGTAAACGTTAATA
 TTTTGTAAAAATTTCGGTTAAATTTTTGTTAAATCAGCTCATTTTTTAAACCAATAGGCCGAAATCGGCAAAATCCCTTAT
 AAATCAAAAGAAATAGCCCGAGATAGGGTTGAGTGTGTTCCAGTTTGAACCAAGAGTCCACTATTAAAGAACGTTGACTC
 CAACGTCAAAGGGCGAAAAACCGCTATCAGGGCGATGGCCCACTACGTGAACCACTACCCAAATCAAGTTTTTTGGGGT
 CGAGGTGCGGTAAAGCACTAAATCGGAACCCCTAAAGGGAGCCCCCGATTAGAGCTTGACGGGAAAGCGAACGTTGGCGA
 GAAAGGAAGGGAAGAAAGCGAAAGGAGCGGGCGTAGGGCGCTGGCAAGTGTAGCGGTACGCTGCGCGTAACCCACCA
 CCGCGCGCGCTTAATGCGCGCTACAGGGCGGTAAAAGGATCTAGGTGAAGATCCTTTTTGATAATCTCATGACCAAAA
 TCCCTTAACGTGAGTTTTCGTTCCTGAGCGTCAAGCCCGTAGAAAAGATCAAAGGATCTTTTGAGATCCTTTTTTT
 CTGCGCGTAATCTGCTGCTTGAACAAAAAACACCGCTACCAGCGGTGGTTTTGTTGGCGATCAAGAGCTACCAAC
 TCTTTTTCCGAAGGTAAGTGGCTTCAAGACCGCTACATACCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCTGCCAGTGGCGATAAG
 ACTTCAAGAACTCTGTAGCACGCGCTACATACCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCTGCCAGTGGCGATAAG
 TCGTGTCTTACCGGGTTGGACTCAAGAGATAGTTACCGGATAAGGCGCAGCGGTGGGCTGAACGGGGGGTTCGTGCAC
 ACAGCCAGCTTGGAGCGAACGACTACACCGAATGAGATACCTACAGCGTGAAGTATGAGAAAGCGCCACGCTTCCCG
 AAGGGAGAAAGGCGGACAGGTATCCGGTAAGCGGCGAGGTGGAACAGGAGAGCGCAGGAGGAGCTTCCAGGGGAAAC
 GCGTGGTATCTTTATAGTCTGCTGGGTTTCGCCACCTCTGACTTGAGCGTGAATTTTTGTGATGCTCGTCAGGGGGCG
 GAGCCTATGGAAAAACGCCAGCAACGCGGCTTTTTACGGTTCTGGCCTTTTGTGCGCTTTTGTGCTACATGTAATGTG
 AGTTAGCTCACTCATTAGGCACCCAGGCTTTACCTTTATGCTTCCGGCTCGTATGTTGTGTTGAATTTGTGAGCGGATA
 ACAATTTTCAACAGGAACAGCTATGACCATGATTAGCCCAAGCTACGTAATACGACTCACTAGGCGGCGCGTTTAAAC
 AATGTGCTCCTCTTGGCTTGCTTCCGCGGCAAGCCAGACAAGAACAGTTGACGCTCAAGCTTCCCGGAGCGGCTGCT
 AGCGGCGCGCGAAATCTTGCAGGATTGAGGGCCCCCTGCAAGTCAATTTACCGGTAGGGAGGCGCTTTCCCAAGG
 CAGTCTGGAGCATGCGCTTTAGCAGCCCGCTGGCACTTGGCGCTACACAAGTGGCTTGGCTCGCACATTTCCACA
 TCCACCGGTAGCGCCCAACCGGCTCGTCTTGGTGGCCCCCTCGCGCCACCTTCTACTCTCCCTAGTCAGGAAGTTC
 CCCCCCGCCCGCAGCTCGCGTCTGTCAGGACGTGACAAATGGAAGTAGCAGTCTCACTAGTCTCGTGCAGATGGACAG
 CACCGCTGAGCAATGGAAGCGGTAGGCTTTGGGGCAGCGGCAATAGCAGCTTTGCTCCTTCTGCTTTTGGGCTCAGA
 GGCTGGGAAGGGGTGGGTTCGGGGCGGGCTCAGGGGCGGGCTCAGGGGCGGGGCTCAGGGGCGGGGCTCCTCCCGAGGCCC
 GGCATTCTCGCAGCTTCAAAGCGCAGCTTGGCGCGCTGTTCTCTCTCTCATCTCCGGGCTTTCCAGCTGCAGC
 CAATATGGGATCGGCCATTGAACAAGATGGATTGCAAGCAGGTTCTCCGGCGCTTGGGTGGAGAGGCTATTCCGCTATG
 ACTGGGCACAACAGACAATCGCTGCTCTGATGCGCGGTGTTCCGGCTGTGAGCGCAGGGGCGCCCGGTTCTTTTTGTG
 AAGACCGACCTGTCCGGTGCCTGAATGAAGTGCAGGACGAGGCGCGGCTATCGTGGCTGGCCACGACGGCGGTTCC
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 TGTCTCTCACCTTGCTCCTGCGGAGAAAGTATCCATCATGGCTGATGCAATGCGGCGCTGCATACGCTTGATCCGGCT
 ACCTGCCCATTCGACCACCAAGCGAAACATCGCATCGAGCGAGCACTCTCGATGGAAGCCGCTCTGTGATCAGGA
 TGATCTGGACGAAGAGCATCAGGGGCTCGCGCCAGCGAAGTGTTCGCCAGGCTCAAGGCGCGCATGCCGACGGCGATG
 ATCTCGTCTGACCCATGGCGATGCTGCTTGGCGAATATCATGGTGGAAAATGGCCGCTTTTCTGGATTCTCGACTGT
 GGCGGGCTGGGTGGGCGGACCGCTATCAGGACATAGCGTTGGCTACCCGCTGATTTGCTGAAGAGCTTGGCGGCGAATG
 GGCTGACCGCTTCTCGTCTTTACGGTATCGCGCTCCCGATTCCGAGCGCATCGCTTCTATCGCTTCTTGACGAGT
 TCTTCTGAGGGGATCGATCGCTCTGTAAGTCTGCAGAAATGATGATCTATTAACAATAAAGATGTCCTAAATGG
 GTGGGGTGGGGTGGGATTAGATAAATGCTGCTTTTACTGAAGGCTTTTACTATTGCTTTATGATAATGTTTCATAG
 TTGGATATCATAATTTAAACAAGCAAAACCAATTAAGGGCCAGCTCATTCTCCCACTCATGATCTATAGATCTATAGA
 TCTCTCGTGGGATCATTGTTTTCTCTGATTCCACITTTGTGGTTCTAAGTACTGTGTTTCCAAATGTGTCAGTTTCA
 TAGCCTGAAGAACGAGATCAGCAGCTCTGTTCCACATACACTTCAATCTCAGTATTGTTTTGCCAAGTTCTAATTCAT
 CAGAAGCTGACTCTAGATCTGGATCCGGCCAGCTAGGCGCTCGACCTCGAGTATCAGGTACCAAGGCTCTCGCTCTGTG
 TCCGTTGAGCTCGACGACACAGGACACGCAAAATTAAGGCGGGCCGTACCTCTAGTCAAGGCTTAAGTGAGTGG
 TATTACGAGTGGCGTCTTTTACACGTCGTGACTGGGAAAACCTGGCGTTACCAACTTAATCGCTTGCAGCACCA
 TCCCCCTTTCCGCGAGCTGGCGTAATAGCGAAGAGGCGCCGACCGATCGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCG
 AATGGCGCTTCCGTTGGTAATAAGCCCGCTTCCGCGGGCTTTTTTTT

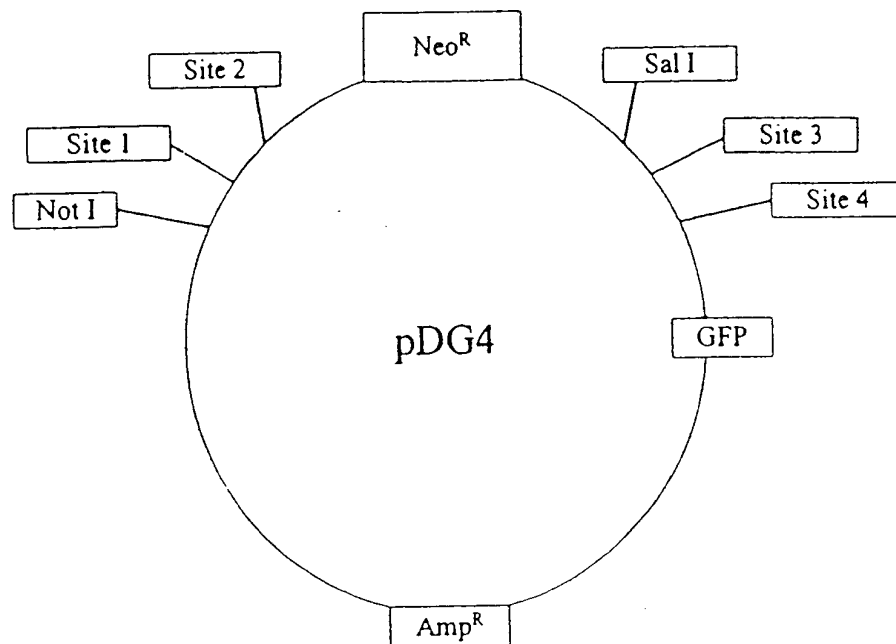


FIGURE 3A

FIGURE 3B

pDG4
 GTTTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAGTTCGCGTTACATAACTTACGGTAAATGG
 CCCGCTGGCTGACCGCCCAACGACCCCCGCCCATTTGACGTCAATAATGACGTATGTTCCCATAGTAACGCCAATAGGGA
 CTTTCCAATGACGTCAATGGGTGGAGTATTTACGGTAAACTGCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGT
 ACGCCCCCTATTGACGTCAATGACGGAATAATGGCCCGCTGGCATTAAAGCCAGTACATGACCTTATGGGACTTTCCTAC
 TTGGCAGTACATCTACGTATTAGTTCATCGCTATTACCATGGTGATGCGGTTTGGCAGTACATCAATGGGCGTGGATAGC
 GGTTTGACTCACGGGGATTTCCAAGTCTCCACCCCATTTGACGTCAATGGGCGGTAGGCGTGTACGGTGGGAGGTCTATATAAGCAG
 TTTCCAAAATGTCGTAAACAACTCCGCCCCATTGACGCAATGGGCGGTAGGCGTGTACGGTGGGAGGTCTATATAAGCAG
 AGCTGGTTTAGTGAACCGTCCAGATCCGCTAGCGCTACCGGTCCGCCCATGGTGAGCAAGGGCGAGGAGCTGTTCAACCGG
 GGTGGTGCCCATCCTGGTCCAGCTGGACGGCGACGTAAACGGGCCAAGTTTCAAGCGTGTCCGGCGAGGGCGAGGGCGATG
 CCACCTACGGCAAGCTGACCCCTGAAGTTTCTGTCACACCGGCAAGCTGCCGTGCCCTGGCCACCTCGTGACCACC
 CTGACCTACGGCGTGCAGTGCTTCAGCGCTACCCCGACCATGAAGCAGCAGCAGCTTCTTCAAGTCCGCCATGCCCGA
 AGGCTACGTCCAGGAGCGCACCATCTTCTTCAAGGACGACGGCAACTACAAGACCCGCGCGAGGTGAAGTTCCAGGGCG
 ACACCTCGGTGAACCGCATCGAGCTGAAGGGCATCGACTTCAAGGAGGACGGCAACATCCTGGGGCAAGCTGGAGTAC
 AACTACAACAGCCCAACGCTCTATATCATGGCCGACAAGCAGAAGAACGGCATCAAGGTGAAGTTCAAGATCCGCCACA
 CATCGAGGACGGCAGCGTGCAGCTCGCGACCACTACCAGCAGAACCCCCATCGCGCAGGGCCCGTGTGCTGCCCG
 ACAACCACTACCTGAGGACCCAGTCCGCCCTGAGCAAGACCCCAACGAGAAGCGCGATCAATGGTCTGCTGGAGTTT
 GTGACCGCGCGCGGATCACTCTCGGCATGGACGAGCTGTACAAGTCCGGAATCAGATCCACCGGATCTAGATAACTGAT
 CATAATCAGCCATACCACTTTGTAGAGGTTTACTTGTCTTAAAAAACCCTCCACACCTCCCCCTGAACCTGAAACATA
 AAATGAATGCAATTGTTGTTGAACCTGTTTATTGCGCTTATAATGGTTACAAATAAAGCAATAGCATCAAAATTTT
 ACAATAAAGCATTTTTTCACTGCATTCTAGTTGTGGTTTGTCCAAACTCATCAATGTATCTTAACCGGAATCACTGTC
 GGTGGCACTTTTTCGGGGAATGTGGCGGAACCCCTATTGTTTATTTTCTAAATACATTCAAAATGTATCCGCTCAT
 GAGACAATAACCTGATAAATGCTTCAATAATATTGAAAAAGGAAGATGATGATTCAACATTTCCGTGTGCGCCTTA
 TTCCTTTTTCGGCGCATTTTGCCTTCTGTTTGTCTCACCAGAAACGCTGGTGAAGTAAAGATGCTGAAGATCAG
 TTGGGTGCACGAGTGGGTTACATCGAACTGGATCTCAACAGCGGTAAAGTCTTGAGAGTTTTCGCCCCGAAGAACGTTT
 TCCAATGATGAGCACTTTTAAAGTTCTGCTATGTGGCGCGTATTATCCCGTGTGACGCGGGCAAGAGCAACTCGGT
 GCCGCATACACTATTCTCAGAATGACTTGGTTGAGTACTCACCAGTCAAGAAAAGCATCTTACGGATGGCATGACAGTA
 AGAGAATTATGCACTGCTGCCATAACCATGAGTGATAACACTGCGGCCAACTTACTTCTGACAACGATCGGAGGACCGAA
 GGAGCTAACCGCTTTTTTGCACAACATGGGGGATCATGTAACCTCGCCTTGATCGTTGGGAACCGGAGCTGAATGAAGCCA
 TACCAAAACGACGAGCGTGACACCAAGTGCCTGTAGCAATGGCAACAACTGCGCAAACTATTAACTGGCGAACTACTT
 ACTCTAGCTTCCCGGCAACATTAATAGACTGGATGGAGGCGGATAAAGTTGCGAGGACCACTTCTGCGCTCGGCCCTTCC
 GGCTGGCTGGTTTATTGCTGATAAATCTGGAGCGGTGAGCGTGGGTCTCGCGGTATCATGCACTGGGGCCAGATG
 GTAAGCCCTCCCGTATCGTAGTTATCTACACGACGGGGAGTCAAGCAACTATGGATGAACGAAATAGACAGATCGCTGAG
 ATAGGTGCTCACTGATTAAGCATTGGTAACTGTGACCAAGTTTACTCATATATACTTTAGATTGATTACCCCGGT
 GATAATCAGAAAAGCCCCAAAACAGGAAGATTGTATAAGCAAAATATTTAAATTTGTAACGTTAATAATTGTTAAAT
 CGCGTTAAATTTTGTAAATCAGCTCATTTTAAACCAATAGGCGGAAATCGGCAAAATCCCTTATAATCAAAAGAA
 AGCCCGAGATAGGGTTGAGTGTGTTCCAGTTTGGAAACAGAGTCCACTATTAAGAAACGTTGGACTCCAACGTCAAAGGG
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 GGTGCTTGCAACAAAAAACACCGCTACCAGCGGTGGTTTGTGTTGCGGATCAAGAGCTACCACTCTTTTCCGAAG
 GTAAGTGGCTTCAAGCAGAGCGCAGATACCAATACTGTTCTTCTAGTGTAGCGTAGTTAGGCGCACTTCAAGAACTC
 TGTAACCGCTACATACCTCGCTCTGCTAATCCTGTTACCAAGTGGCTGCGGTCAAGCTGGCGATAAGTGTGTTACCG
 GGTGGACTCAAGACGATAGTTACCGGATAAGGCGCAGCGGTGGGCTGAACGGGGGTTCTGTCACACAGCCAGCTTG
 GAGCGAACGACCTACACCGAACTGAGATACCTACAGCGTGAGCTATGAGAAAGCGCCACGCTTCCGAAGGGAGAAAGG
 GGACAGGTATCCGGTAAGCGGCGAGGTGCGAACAGGAGAGCGCAGGAGGAGCTTCCAGGGGAAACCGCTGGTATCTTT
 ATAGTCTGTGCGGTTTTCGCCACCTCTGACTTGAGCGTCAATTTTGTGATGCTCGTCAGGGGGCGGAGCCTATGAAA
 AACGCCAGCAACGCGGCTTTTACGTTTCTGGCCTTTTGTGCTGCTTGTGTTGGAATTGTGAGCGGATAACAATTTCAACA
 ATTAGGCACCCAGGCTTTTACACTTATGCTTCCGGCTCGTATGTTGTGTTGGAATTGTGAGCGGATAACAATTTCAACA
 GGAAACAGCTATGACCATGATTACGCAAGCTACGTAATACGACTCACTAGGCGGCGCGTTTAAACAATGTGCTCCTCT
 TTGGCTTGTCTCCGCGGGCAAGCCAGCAAGAACAGTTGACGTCAAGCTTCCCGGACGCGTGTAGCGGCGCGCGCA
 ATCTCTGAGGATTCAGGGGCCCTGCAAGTCAATTCTACCGGTAGGGGAGGCGCTTTTCCAGGCGAGTCTGGAGCAT
 GCGCTTTAGCAGCCCCGCTGGCACTTGGCGCTACACAAGTGGCCTTGGCTCGCACACATCCACCGGTAGCG
 CCAACCGGCTCCGTTCTTGGTGGCCCCCTTCCGCCACCTTCTACTCTCCCTAGTCAGGAAGTTCCCCCGCCCCCG
 AGCTCGCGTGTGAGGACGTGACAAATGGAAGTAGCAGTCTCACTAGTCTCGTGAGATGGAACAGCAGCGTGTGAGCAA
 TGGAGCGGGTAGGCTTTGGGGCAGCGGCAATAGCAGCTTGTCTCTTCTGCTTCTGGGCTCAGAGGCTGGGAAGGG
 TGGGTCCGGGGCGGGCTCAGGGCGGGCTCAGGGCGGGGCGGGCGGAAGGTCTCCGAGGCGCGGCTTCTCGCAC
 GCTTCAAAAGCGCACGTCTGCGCGCTGTTCTCTCTCTCTCATCTCCGGGCTTTGACCTGACGCAATATGGGATCG
 GCCATTGAACAAGATGGATTGCACGCGGTTTCCGGCGGCTTGGGTGGAGAGGCTATTCCGCTATGACTGGGCAACA
 GACAACTCGCTGCTCTGATGCGCGCTGTTCCGGCTGTGAGCGAGGGCGCGGCTTCTTGTCAAGACCGACCTGT
 CCGGTGCCCTGAATGAATGACGAGGAGCGCGGCTATCGTGGCTGGCCAGCAGGGCGTCTTGTGCGCAGCTGTG
 CTCGACGTTGCTACTGAAGCGGGAAGGACTGGCTATTGGGCGAAGTGCAGGGCGAGGATCTCTGTCTCATCTCACCT

TGCTCCTGCCGAGAAAGTATCCATCATGGCTGATGCAATGCCGGCGCTGCATACGCTTGATCCGGCTACCTGCCCATTCG
ACCACCAAGCGAAACATCGCATCGAGCGAGCAGTACTCGGATGGAAGCCGGTCTTGTCGATCAGGATGATCTGGACGAA
GAGCATCAGGGGCTCGCGCCAGCCGAACTGTTCCGAGGCTCAAGGCGCGCATGCCGACGCGGATGATCTCGTCGTGAC
CCATGGCGATGCCCTGCTTGCGAATATCATGGTGGAAATGGCCGCTTTCTGGATTATCGACTGTGGCCGGCTGGGTG
TGGCGGACCGCTATCAGGACATAGCGTTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCGAATGGGCTGACCGCTTC
CTCGTGCTTTACGGTATCGCCGCTCCCGATTCCGAGCGCATCGCCTTCTATCGCCTTCTTGACGAGTTCCTCTGAGGGGA
TCGATCCGTCTGTAAAGTCTGCAGAAATTGATGATCTATTAAACAATAAAGATGTCCACTAAAATGGAAGTTTTCTGT
CATACTTTGTTAAGAAGGGTGAGAACAGAGTACCTACATTTGAATGGAAGGATTGGAGCTACGGGGTGGGGTGGGGT
GGGATTAGATAAATGCCTGCTCTTTACTGAAGGCTCTTTACTATTGCTTTATGATAATGTTTCATAGTTGGATATCATAA
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CATTTGTTTTCTCTTGATTCCCACTTTGTGGTTCTAAGTACTGTGGTTTCCAAATGTGTGAGTTTCATAGCCTGAAGAAC
GAGATCAGCAGCCTCTGTTCCACATACACTTCATTCTCAGTATTGTTTTGCCAAGTTCTAATTCATCAGAAGCTGACTC
TAGATCTGGATCCGCCAGCTAGGCCGTCGACCTCGAGTGATCAGGTACCAAGGTCCTCGCTCTGTGTCGGTTGAGCTCG
ACGACACAGGACACGCAAAATTAATTAAGGCCGGCCGTACCTCTAGTCAAGGCCTTAAGTGAGTCGTATTACGGACTGG
CCGTCGTTTTACAACGTCGTGACTGGGAAAACCTGGCGTTACCCAACTTAATCGCCTTGAGCACATCCCCCTTTCCGC
AGCTGGCGTAATAGCGAAGAGGCCCGCACCGATCGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCGAATGGCGCTTCG
TTGGTAATAAAGCCCCTTCGGCGGGCTTTTTTTT

FIGURE 3B (Continued)

Annealing site	Sequence	Sequence after digestion
1	5' tgtgctcctctttggcttgcttccaa... 3' 3' acacgaggagaaacccaacgaagggtt... 5'	5' tgtgctcctctttggcttgcttccaa... 3' 3' tt... 5'
2	5' ctgggttcttgtctggcttgcccaa... 3' 3' gaccaagaacagacgaacgggtt... 5'	5' ctgggttcttgtctggcttgcccaa... 3' 3' tt... 5'
3	5' ggctcctcgctctgtgtccggttgaa... 3' 3' ccaggagcgagacacaggcaactt... 5'	5' ggctcctcgctctgtgtccggttgaa... 3' 3' tt... 5'
4	5' ttgcggtgtcctgtgtcgtcgaa... 3' 3' aaacgcacaggacacagcaggtt... 5'	5' ttgcggtgtcctgtgtcgtcgaa... 3' 3' tt... 5'

FIGURE 4

Annealing site	Sequence	Sequence after digestion
1	5' AATgtgctcctctcttggcttgcttCCGC 3' 3' Ttacacgaggagaaacccgaacgaagg 5'	5' AA 3' 3' Ttacacgaggagaaacccgaacgaagg 5'
2	5' AActggttcttgtctgtgcttgCCCCGC 3' 3' Ttgaccaagaacagaccgaaccggg 5'	5' AA 3' 3' Ttgaccaagaacagaccgaaccggg 5'
3	5' AAggtcctcgctctgtgtccggtGAGCT 3' 3' Ttccaggagcgagacacaggccaac 5'	5' AA 3' 3' Ttccaggagcgagacacaggccaac 5'
4	5' AAttgctgtctctgtgtcgtcGAGCT 3' 3' Ttaaacgcacaggacacagcagc 5'	5' AA 3' 3' Ttaaacgcacaggacacagcagc 5'

FIGURE 5

FIGURE 6

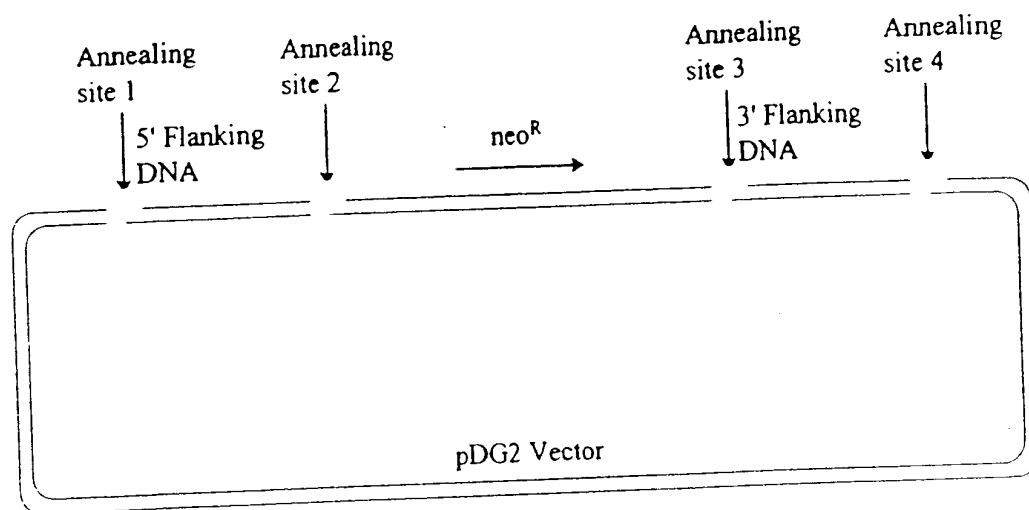
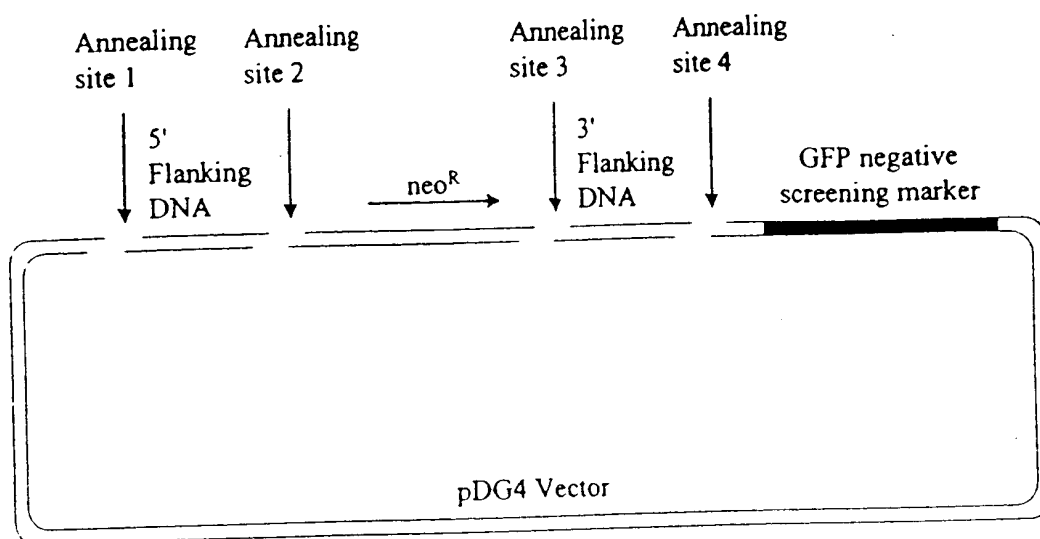


FIGURE 7



TTCCTGACAAGACTATGTCCACTCAGGAGCCCCAGAAGAGTCTTCTGGGTTCTCTCAACTCCAATGCCAC
 CTCTCACCTTGGACTGGCCACCAACCAGTCAGAGCCTTGGTGCCTGTATGTGTCCATCCCAGATGGCCTC
 TTCCTCAGCCTAGGGCTGGTGAGTCTGGTGGAGAATGTGCTGGTTGTGATAGCCATCACCACCAACCGCA
 ACCTGCACTCGCCCATGTATTACTTCATCTGCTGCCTGGCCCTGTCTGACCTGATGGTAAGTGTGAGCAT
 CGTGCTGGAGACTACTATCATCTGCTGCTGGAGGTGGGCATCCTGGTGGCCAGAGTGGCTTTGGTGCAG
 CAGCTGGACAACCTCATTGACGTGCTCATCTGTGGCTCCATGGTGTCCAGTCTCTGCTTCCTGGGCATCA
 TTGCTATAGACCGCTACATCTCCATCTTCTATGCGCTGCGTTATCACAGCATCGTGACGCTGCCAGAGC
 ACGACGGGCTGTGCTGGGCATCTGGATGGTCAGCATCGTCTCCAGCACCTCTTTATCACCTACTACAAG
 CACACAGCCGTTCTGCTCTGCCTCGTCACTTTCTTTCTAGCCATGCTGGCACTCATGGCGATTCTGTATG
 CCCACATGTTACAGAGAGCGTGCCAGCACGTCCAGGGCATTGCCAGCTCCACAAAAGGCGGCGGTCCAT
 CCGCCAAGGCTTCTGCCTCAAGGGTGTGCTGCCACCTTACTATCCTTCTGGGGATTTTCTTCTGTGCTGG
 GGCCCTTCTTCTGCTCATCTTGTCTCATCGTCTGCTGCTCAGCACCCACCTGCAGCTGCATCTTCA
 AGAAGTTCAACCTCTTCTCCTCCTCATCGTCTCAGCTCCACTGTTGACCCCTCATCTATGCTTTCCG
 CAGCCAGGAGCTCCGCATGACACTCAAGGAGGTGCTGCTGTGCTCCTGGTGATCAGAGGGCGCTGGGCAG
 AGGGTGACAGTGATATCCAGTGGCCTGCATCTGTGAGACCACAGGTACTCATCCCTTCTGATCTCCATT
 TGTCTAAGGGTCGACAGGATGAGCTTTAAATAGAAACCCAGAGTGCCTGGGGCCAGGAGAAAGGTAAC
 TGTGACTGCAGGGCTCACCCAGGGCAGCTACGGGAAGTGGAGGAGACAGGGATGGGAAGTCTAGCCCTGA
 GCAAGGGTCAGACCAGGCTCCTGAAGAGCTCACCTCTCCCCACCTACAGGCAACTCCTGCTCAAGCC
 (SEQ ID NO: 19)

Targeting Vector (5' arm; 200 bp flanking neo insert):

CCGACAACAACATGAAGTGAATCAGAAGCTGGGGGCTGATACCACCTGGAGCTGCAG
 CCTCCACAGACCGCTTCTACTTCTGACAAGACTATGTCCACTCAGGAGCCCCAGAA
 GAGTCTTCTGGGTTCTCTCAACTCCAATGCCACCTCTCACCTTGGACTGGCCACCAACC
 AGTCAGAGCCTTGGTGTCTGTATGTG (SEQ ID NO: 20)

Targeting Vector (3' arm; 200 bp flanking neo insert):

GACTACTATCATCTGCTGCTGGAGGTGGGCATCCTGGTGGCCAGAGTGGCTTTGGTG
 CAGCAGCTGGACAACCTCATTGACGTGCTCATCTGTGGCTCCATGGTGTCCAGTCTCT
 GCTTCTGGGCATCATTGCTATAGACCGCTACATCTCCATCTTCTATGCGCTGCGTTAT
 CACAGCATCGTGACGCTGCCAGAG (SEQ ID NO: 21)

FIG. 8